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Mortal questions

Uruguay's infant mortality conundrum

ANNE-EMANUELLE BIRN

In the first decade of the 20th century, the small South American country of Uruguay distinguished itself on two fronts. First, it achieved one of the lowest rates of infant mortality in the world. With approximately 100 deaths per 1000 live births *c*.1900, Uruguay's record was better than those of England, France and almost every other country then collecting vital statistics (barring Norway and Sweden). Second, Uruguay began forging a French-influenced welfare state under the two administrations of President José Batlle y Ordóñez, enacting a succession of worker benefits and social protections that were on their way to reaching most of the population.

Above: Child mortality is affected by a wide range of governmental, social and economic factors. *Marilyn Nieves/iStockphoto*

Cover: Radcliffe Square in Oxford. Line engraving after James Gibbs. See pages 5–15 on the Oxford Wellcome Unit for the History of Medicine.

Moreover, these developments took place far beyond the industrialising belt that traversed Europe, North America and a few imperial pockets. Uruguay was not an economic powerhouse; the mainstay of meat exports was overshadowed by Argentina's beef industry (which had adopted refrigeration earlier). Meanwhile, multitudes of newly arrived immigrants were leaving Uruguay for neighbouring Brazil and Argentina, making the political authorities – who had established one of Latin America's earliest functioning civil registries in 1879 – chronically anxious about the country's underpopulation. This demographic danger made the survival of children all the more important.

Despite these concerns, Uruguay seemed poised to maintain its favourable infant mortality ranking. The population was relatively well fed and well schooled, and inhabitants of the capital, Montevideo (where one-third of the country's one million people resided, according to the 1908 census), enjoyed the trappings of modern city life, including paved streets, electricity, sanitation and up-to-date medical facilities. In 1910, Uruguay's charity institutions were nationalised into the Asistencia Pública Nacional (APN) – self-consciously fashioned after France's Assistance Publique. The boasts of public health leaders – who saw Uruguay's comparative progress as stemming from a combination of institutional advances, easy geography, relative stability and mild climate – appeared more than justified.

In the 1910s, however, the situation changed. Uruguay's model of child health success started to unravel: infant mortality rates were no longer dropping, and Uruguay's statistics began to lag behind those of numerous European and American countries. Even more surprisingly, infant mortality continued its stagnation through the late 1930s, simultaneous to the growth of the welfare state, which included extensive APN services aimed at child health and wellbeing, such as milk stations, maternal subsidies, state orphanages and wet nurses for abandoned infants.

This reversal of fortunes eroded health specialists' confidence in the approaches they had embraced just a few years before. For several years, famed Uruguayan paediatrician Luis Morquio and his colleagues blamed each other for poor implementation of French child health measures. But mutual accusations and recriminations did little to resolve Uruguay's infant health situation.

The seeming immovability of Uruguay's infant mortality rate and the painful paradox of stagnation, just as

maternal and infant protection services were being institutionalised, led the country's public health elite to reconsider the explanatory frameworks and child health measures that they had confidently advanced over decades. By the mid-1920s, these doctors began to pursue local explanations for Uruguay's circumstances, grounded in socio-medical reasoning. High rates of illegitimacy were increasingly understood as a reflection of misery and marginalisation rather than maternal ignorance. Milk station director Julio Bauzá admitted that his centres not only purveyed mothering advice and well-baby services but also inadvertently distributed unclean milk, in the absence of effective pasteurisation regulations. Persistent diarrhoeal mortality was also linked to problems of water supply, which had not kept up with the growth of the city.

Targeted social protection programmes in the absence of broad entitlements may be less able to improve mortality than welfare states that provide universal, rights-based approaches

With the continued failure of medicalised approaches, Uruguayan authorities turned to the social context of child health. Building on the efforts of the Pan American Child Congresses, first organised in 1916 by feminists in Buenos Aires, Morquio parlayed Uruguay's problems into the International American Institute for the Protection of Childhood (IIPI), established in Montevideo in 1927, with behind-the-scenes backing from leading Uruguayan feminist Dr Paulina Luisi, the country's first woman doctor. The world's first such permanent body, it was supported by the League of Nations Health Organisation and the Uruguayan government, as well as the dues of member countries from throughout the Americas. The IIPI served as a clearing house for the collection and dissemination of research, policy and practical information pertaining to the care and protection of children and mothers.

Its widely circulating *Boletín*, its library, its health education materials and the periodic Pan American Child Congresses it now sponsored generated a large network of collaborators throughout Latin America and the world. The *Boletín* – which often featured articles on Uruguay's setbacks and successes – was one of the most international journals of its day, and helped to secure the IIPI's reputation. In 1930, Morquio was elected President of Save the Children in Geneva, providing a further platform for Uruguayan approaches to child health.

The IIPI and Morquio's world stage also gave new momentum to the ongoing efforts to combat infant and child mortality within Uruguay. The IIPI's reports underscored the limits of specialised medical approaches and the need to integrate the medical and social underpinnings of child health.

In 1933 the Uruguayan parliament established a Ministry of Child Protection – the first of its kind in the world – and invited Morquio, Bauzá and other supporters of 'childhood social medicine' to form a legislative advisory commission to organise the various programmes and agencies involved in child welfare in Uruguay.

In 1934, the commission members, backed by numerous unions and advocates, convinced the parliament to pass a Children's Code, contributing both theoretically and practically to a new conception of child health, enshrined in children's rights to welfare, education, medical care, legal protections and decent living conditions – ensured through a centralised array of protective institutions.

The provisions of the Children's Code – under Bauzá's administration – reached virtually every Uruguayan child, at a minimum through school health exams and, for poor and working-class children, through extensive coordinated services. Because it gave a legal basis to child protection, the Code ensured access to and expansion of these services.

By the early 1940s, implementation of the Code's broad social protections, combined with milk, housing and water improvements, were accompanied by a sharp decline in Uruguay's infant mortality rate. The crafters of the Code were also instrumental in the passage of a 1943 law that established a system of redistributive family allowances paid to every worker based on the number of his/her children.

Together, these universal entitlements enabled the decline in infant mortality, serving as key underlying determinants of health. Only around 1950, almost 15 years after Montevideo's infant mortality had resumed

Right: Uruguay's Children's Code, which instituted policies to promote child health.

a downward trend (and a decade after the country as a whole had done so), were hospital-based rehydration measures, and then antibiotics, widely diffused in Uruguay. With demographic conditions once again the object of admiration, Uruguay's Children's Code became influential throughout Latin America and internationally, stimulating the passage of the 1948 Pan American Children's Code (and serving as a model for the Convention on the Rights of the Child, adopted by the UN General Assembly in 1989).

High rates of illegitimacy were increasingly understood as a reflection of misery and marginalisation rather than maternal ignorance

The vicissitudes of Uruguay's infant mortality pattern offer a story of both peculiarities and broader implications. Certainly, Uruguay was one of few peripheral countries to monitor infant mortality rates and experience progress by 1900. It was also unusual in developing a welfare state in the absence of industrialisation, suggesting the importance of studying the demographic and social welfare aspects of public health history far beyond metropolitan settings.

Because of Uruguay's small size, physicians served at one and the same time as demographic observers, astute social epidemiologists, clinicians, researchers, policy makers, programme administrators, international networkers, and political and social elites. This made them more powerful and, perforce, more open players than elsewhere: by the late 1920s, after some 20 years of flatlining infant mortality and careful study of explanatory factors and health measures, and more than a decade of finger-pointing, Morquio, Bauzá and colleagues came to believe that they had focused on the wrong institutions and factors, or at least too narrow a mix of them. Their insistence to return Uruguay to its successful infant health trajectory led them, slowly and painfully, to embrace child rights – including comprehensive social measures and redistributive entitlements – as key determinants of infant survival, an approach with both national and international repercussions.

A perplexing aspect of Uruguay's infant mortality stagnation has to do with why the famed Batllista welfare state was slow to yield results. Here, children's health was arguably the victim of previous successes: Uruguay's welfare state prioritised – at least in peso terms – wage earners and retirees over the young because child health was not perceived to be a leading problem. For example, while old age pensions were implemented in 1919, family allowances covering children were not enacted until 1943. The neglect of housing, sanitation, milk inspection and other social investments was doubly problematic given the vulnerability of children to environmental pathogens.

The turn of events in Uruguay also offers clues regarding social policy development in a wider context. In particular, study of Uruguay suggests that targeted social protection programmes in the absence of broad entitlements may be less able to improve (infant) mortality than welfare states that provide universal, rights-based approaches to wellbeing. Only after Uruguay embraced a social rights approach to child welfare (far beyond wage-earner policies) did its targeted efforts aimed at marginal women and children help to reduce infant mortality. The importance of integrating universalist welfare states with medical measures remains, even as medicine's technical armamentarium has grown. Alas, this insight is seemingly lost on most global health agencies today.

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New publication

Biomedicine as a Contested Site: Some revelations in imperial contexts, edited by Poonam Bala.

With an increasing emphasis in literature on the interaction between imperial power and medicine, this volume presents new perspectives in this direction by portraying power as 'innate' in biomedicine. The role of power also becomes significant as the book presents biomedicine as a site of contested ventures – a site of contestation and conflicts, and of processes of adaptation and accommodation, that saw an interplay of medicine, colonial imperatives and resistance by indigenous populations.

The interplay of systems of knowledge in a medical encounter that signalled the limits of state control of indigenous populations has been analysed under various imperial contexts highlighting a unique relationship with colonisation and social control in a global context. In addition, ideas of disease and health presented in this volume include control of infectious diseases and epidemics, medications and indigenous therapeutics, clinical medicine and surgery, and reproductive health, with the added dimension of medical pluralism and elites as enabling some of the interactions and processes between imperial power and medicine.

Published by Rowman & Littlefield Publishers, Inc./Lexington Books, Lanham: MD; 2008.

Spotlight on the history of medicine at the University of Oxford

MARK HARRISON

Most historians of medicine working in Oxford are involved in some way with the Wellcome Unit for the History of Medicine, which has formed the focal point for research and teaching in this subject for many years. The Unit was founded in 1973, located temporarily in a cabin on the south side of Parks Road, near Keble College. More suitable accommodation was soon found and the Unit moved to its present site on Banbury Road, where it occupies the whole of two large Victorian houses. The Unit has its own library and seminar room and is fortunate in being able to accommodate most of its graduate students, in addition to postdoctoral fellows and visitors.

The Unit's founder and first Director was Dr Charles Webster, who held the post for 16 years. Subsequent directors include Professor Richard Smith, Professor Jane Lewis and Dr Mary Dobson. The nature of research undertaken at the Unit has varied enormously over the years, reflecting the interests of successive directors.

I am the current Director, having taken up the post in 2001 after a period as Acting Director. My research interest lies chiefly in the history of medicine and imperialism (especially India), war and medicine, and the history of disease, especially the relationship between disease and international trade. This work ranges from the late 17th through to the mid-20th centuries.

Today, the Wellcome Unit houses three post-holders in the History Faculty: the Deputy Director, Dr Sloan Mahone, the Reader in the Social History of Medicine, Dr Margaret Pelling, and me. In addition, there are a large number of graduate students (normally around 30 full-time Master's and doctoral students) together with five to ten research fellows and research assistants, and a variable number of visiting scholars. Other members of the History Faculty and historians in other Faculties participate regularly in Unit activities, teaching and supervising graduate students, and co-directing research projects. Apart from denizens of the Unit, those involved in some aspect of the history of medicine – in either teaching or research – currently include: Professor David Anderson (Professor of African History), Professor William Beinart, (Rhodes Professor of Race Relations), Robin Briggs (Senior Research Fellow of All Souls College and Special Lecturer in History), Professor Laurence Brockliss (Professor of Early Modern French History), Professor Pietro Corsi (Professor of the History of Science) Professor Ian Maclean (Senior Research Fellow of All Souls College and Professor of Renaissance History), Dr Elisabeth Hsu (Reader in Medical Anthropology) and Dr Deborah Oxley (University Lecturer in Social History).

Teaching in the history of medicine occurs mostly within the MSc/MPhil in the History of Science, Medicine and Technology, although some students taking other history Master's degrees take options in this area and write dissertations in the history of medicine. The subject is also taught at undergraduate level in the BA in History, at further subject level (with emphasis upon primary sources) and through the supervision of dissertations. Pre-clinical and clinical medical students, as well as those reading biochemistry, can also opt to study the history of medicine by writing a supervised dissertation or taking a special study module. Historians of medicine also teach in other departments and on other history degrees, including Development Studies and African Studies. The range of teaching in the history of medicine is expected to increase in the near future following the appointment of a new University Lecturer in the History of Medicine early in 2009.

In recent years, there have been strong programmes of research in the history of war and medicine, led by Professors Harrison and Brockliss, in the history of veterinary medicine in South Africa, led by Professor Beinart, and in the history of hospitals in developing countries, led by Professor Harrison. These initiatives have resulted in a variety of publications, conferences and workshops, and their findings have been communicated via media broadcasts, non-academic articles and TV drama-documentaries.

Today, scholars based at the Unit and its associates are engaged in research projects spanning various aspects of colonial, military and naval medicine, as well as a new focus of research on health and globalisation, in association with public health workers in India and scholars at Yale and Johns Hopkins Universities and Colby College in the USA. Work has also begun on a major programme of research in medicine and maritime history, the centrepiece being collaboration with the National Maritime Museum at Greenwich. This relationship opens up exciting possibilities for an extensive programme of public engagement to complement ongoing and future research activities.

In addition to these programmes of research, scholars based at the Unit are undertaking a variety of other projects, some individual in nature and some collaborative. These projects are funded not only by the Wellcome Trust but also by funding bodies such as the Arts and Humanities Research Council and the Economic and Social Research Council. Some of these projects are described in the pages that follow.

Professor Mark Harrison is Director of the Wellcome Unit for the History of Medicine at Oxford (www.wuhmo.ox.ac.uk).

A veterinary and epidemiological history of rabies in southern Africa

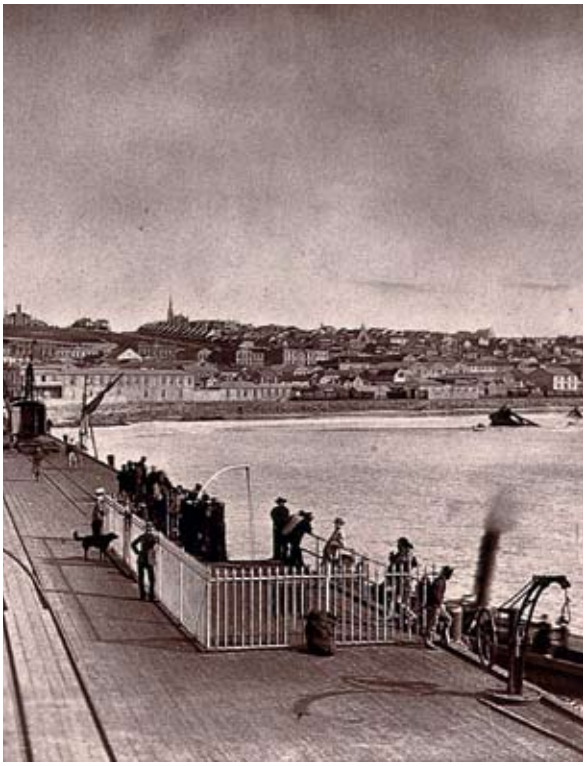
KAREN BROWN

This project began in August 2006 and will terminate in July 2009. The focus of the study is the history of rabies in southern Africa from the early 19th century until the present day. During that time the epizootiology of the disease altered greatly as the region has transformed from one in which the disease was rare to one in which rabies is now endemic.

The project looks at the environmental factors that facilitated the spread of rabies: the large number of susceptible vectors, as well as agricultural changes that affected the habitat and provided a home for carriers such as jackals. It also explores the development of South African science, which drew from local knowledge in the field as well as international improvements in vaccines to save bitten people and to protect the domestic dog population. Other themes include the impact of colonialism and colonial settlement on the trade in animals and the expansion in labour migrancy, which highlighted the porosity of national borders as the virus was at times imported by both sea and land from north of the Zambezi, where rabies had been a problem for a long time. It also considers the role of the state in dealing with rabies, in particular the failure of the apartheid government to tackle the disease effectively during the latter part of the 20th century, owing to its racially driven political agendas and lack of investment in the impoverished townships and rural areas where most of the victims of rabies, Africans, died. Finally it considers the social and cultural impacts of rabies: how it brought to life various class and social tensions and also affected people's attitudes towards wild animals that could be carriers of a deadly disease.

In 1893 canine rabies reached Port Elizabeth, a major entrepôt for the trade in live animals between Europe and southern Africa. The introduction of rabies into the Cape fits into the literature on the globalisation of some human and animal infections through trade and colonialism during the 19th century. The Cape authorities responded to the outbreak by instigating 'stamping-out' policies as practised in Britain at the time – namely culling stray dogs, muzzling pets and restricting canine movements in and out of the city. They also interacted with the latest developments in international science and began to produce Pasteur's post-exposure prophylaxis to treat bitten people. The spread of rabies to South Africa was indicative of some of the negative aspects of colonialism and European settlement in other parts of the world; its arrival in South Africa provides opportunities for historians to look at scientific relationships between this colony and the metropole. Within a year rabies disappeared from South Africa. Canine rabies then reached Zimbabwe in 1902. The source is unclear but there was an outbreak in dogs in Zambia, across the Zambezi, and scientists concluded that population movements might have been responsible for its southward movement. The authorities once again managed to stamp out the disease, by adopting methods practised in Europe. By 1913 it seemed that southern Africa was once again free of rabies.

However, it soon became clear that that was not the case. Scientists and the state had neglected the problem of rural rabies, transmitted to humans, dogs and livestock by wild animals such as meerkats and genet (cats). The spread of bubonic plague into the hinterland during the 1910s brought urban-based doctors to the rural areas, where Africans and settler farmers told them about their experiences with rabies. Autopsies later confirmed that people were dying of the disease – especially following bites from a type of meerkat, the yellow mongoose. Local knowledge was therefore very important in pointing scientists to the source of the virus and showed how popular observations of the environment were instrumental in the creation and expansion of a South African knowledge about the rabies situation in that country. For 40 years the veterinary department tried to control the disease by gassing the meerkats in their burrows – a strategy adopted in Europe after World War II to deal with fox rabies by fumigating their dens. This tactic failed to mitigate rabies over the longer term, leading to ecological investigations that furthered South Africa's contribution to the ecological and zoological sciences.



Right: Port Elizabeth, South Africa. By Robert Harris, 1888.

Worse was to come in 1950, when canine rabies swept through Botswana, Zimbabwe, South Africa and Mozambique, attributed to labour migration to the South African goldmines and the roaming of rabid jackals southwards across the Zambezi. Since then, rabies has proved ineradicable throughout the region and has become endemic in the domestic and wild canine populations. Most people now die of rabies contracted from dog bites, especially in the poorer, remote rural area where access to post-exposure medical treatment remains difficult and costly and dogs are not vaccinated at all.

Dr Karen Brown is Senior Research Officer at the Oxford Unit.

The social history of veterinary medicine in South Africa since 1930

KAREN BROWN

This Economic and Social Research Council (ESRC) project follows on from a Wellcome Trust-funded project, with William Beinart and Dan Gilfoyle, entitled 'Veterinary Medicine, Entomology and the State in South Africa 1900–50'. It examined Western biomedical approaches to animal diseases and their control, focusing on the scientific research pursued at the Onderstepoort Veterinary Institute. The ERSC project will run from August 2009 to 2011 and will be undertaken by Professor Beinart and me.

Livestock have always made a vital contribution to South Africa's economy at both commercial and subsistence levels. Cattle in particular continue to have important social as well as economic functions in African rural society. High levels of unemployment and malnutrition in many areas continue to emphasise the significance of livestock as an economic asset. The aim of our project is to try to understand current pastoral concerns in South Africa by exploring the social history of veterinary medicine from the 1930s to the present, covering three chronological eras: the closing years of the segregationist period, apartheid (1948–94) and the decade following democratic elections in 1994. The project examines the operations of the state veterinary field department and assesses African stockowner responses to these interventions. A key component of the project is to unpack questions of medical hybridisation and the evolution of a pluralistic local veterinary knowledge, by considering the impact Western biomedical science has had on the way African stockowners have conceptualised disease, treated their animals and managed their environment at different points in time. It also reflects on how African knowledge has influenced veterinary research and policy.

The project includes a national overview of state interventions in the field and uses two case studies, one in KwaZulu-Natal, the other in the North West Province, to enrich the narrative and provide depth and detail for analysis. These regions were chosen because of their epidemiological interest and their sizeable African populations. Publications from this project will make an important contribution to the historiography because, whereas social histories are an important feature in the literature on human medicine, the social impacts of veterinary science have been largely overlooked. The proposal is therefore novel and forms a starting-point for future comparative research. It will make a valuable contribution not only to the historiography on South Africa but also to the wider literature on African ideas and approaches to disease.

The project does not just see livestock diseases as epidemiological issues but locates them within a broader political, economic, social and cultural context. In this respect the heavily intrusive veterinary interventions of the segregationist and apartheid eras stand in strong contrast to current policy. Since 1994 a state policy of veterinary decentralisation, coupled with economic constraints, has resulted in the decline in publicly financed veterinary services, leaving farmers to their own devices. The contemporary veterinary and sociological evidence suggests that African stockowners have responded by drawing upon a variety of knowledge systems and

Right: Livestock diseases and their treatment have had significant impacts on African life.

veterinary procedures that are rooted in the past to protect and heal their animals. African ideas about livestock diseases remain largely unrecorded, and this project is therefore important from political and economic, as well as from historical and cultural, perspectives because of the significance of this knowledge to everyday life.

Dr Karen Brown is Senior Research Officer at the Oxford Unit.

Using tropical resources to make medical products: colonial products research *c.*1940–65

SABINE CLARKE

As the British Empire entered its final phase from the 1940s, its interest in the use of resources from tropical colonies, paradoxically, increased. This project – funded by a Wellcome Trust Research Fellowship – examines the use of such sources in the production of medical products and places this in the wider context of plans for the economic development of the colonies, particularly the British West Indies. In 1943, the Colonial Office in London created the Colonial Products Research Council, which had as one of its chief aims the solution of economic and social problems in the Caribbean through the creation of new commercially viable products from sugar.

Strikes and rioting had occurred in Jamaica, Trinidad and Barbados between 1935 and 1938; the subsequent coverage of the very poor conditions that existed in these colonies caused outrage in Britain and abroad. Officials in London believed that poverty in the British West Indies resulted from the extremely low price fetched by Caribbean sugar as a foodstuff on the world market. It was believed that by diverting sugar to new industrial uses, the British West Indies would be able to participate in the expanding world market for synthetics and pharmaceutical products. In order to achieve this, the Colonial Products Research Council established a programme of scientific research at a range of British universities, and created two new research institutes in Trinidad after World War II.

Above: Sugar cane's uses extend well beyond food.

The research undertaken at British universities had a number of objectives, including the creation of new compounds through the chemical reactions of sugar and starch. In Trinidad a laboratory was created to investigate the production of industrially useful products from sugar cane at the Imperial College of Tropical Agriculture. In addition, a microbiological institute was created to survey tropical microorganisms in the hope that new antibiotic substances could be identified. It was hoped Britain's colonial possessions could potentially furnish alternative sources of existing drugs or new pharmacologically important compounds to match the success of such products as penicillin and streptomycin. The money for these institutions and the work in Britain came from the Colonial Research Fund, created with the passing of the Colonial Development and Welfare Act of 1940. Colonial products research was part of a major expansion in scientific research for the colonies and a decidedly more interventionist approach to development in the last decades of British imperialism.

During the 1940s, the Colonial Office became the second largest sponsor of research in the civil sphere in Britain, with funds greater than the Medical or Agricultural Research Councils. Its enthusiasm for the identification of new medically important compounds from sugar arose in the context of an expanding market for novel pharmaceutical products that was given further stimulus with the creation of the NHS. The period after 1940 saw increasing emphasis by state and business in Britain on the prosecution of fundamental research in order to produce pharmaceutical innovations. The research funded by the Colonial Products Research Council, however, was part of a wider plan to stimulate economic diversification and the development of secondary industry in the British West Indies. Such policies for the Caribbean are not acknowledged in the existing literature and indeed the claim is made that British policies purposively frustrated economic diversification in this area of the colonial empire, thereby directly engineering underdevelopment. One aim of this project is to gain greater understanding of the role officials believed scientific research would play in economic development and how research was expected to translate into economic development gains. A study of the alternative views of Caribbean development expressed by the West Indian economist W A Lewis and also the politician and future Prime Minister of Trinidad, Eric Williams, will allow us to assess the suitability of the Colonial Office's plans from a West Indian perspective and may give insight into the reasons that Colonial Office policies for industrialisation were not ultimately successful in the ways that had originally been hoped.

Dr Sabine Clarke is Wellcome Trust Research Fellow at the Oxford Unit.

Trauma and personhood in late colonial Kenya

SLOAN MAHONE

This project is funded by a grant from the Arts and Humanities Research Council to Professor David Anderson and me, with Dr Neil Carrier as Research Assistant. The project is based upon a newly discovered substantial archive from the estate of Dr Edward Margetts (1920–2004), a Canadian psychiatrist in charge of Mathari Mental Hospital, Kenya, during the 1950s. A clinician of considerable experience, Margetts was also an accomplished photographer and a substantial section of his archive documents the lives of patients within Mathari. The photographs are meticulously labelled and annotated, many being portraits of individuals whose names, backgrounds and stories Margetts wrote down.

Others are clearly intended to depict symptom groups such as catatonic postures, facial expressions, and the appearance of spasms or tics. In this regard, Margetts's use of photography is reminiscent of a genre of psychiatric photography that evolved from the late 19th century and had currency in the mid-20th century as a diagnostic tool. The thousands of documents in the collection relate clinical findings, observations and research notes. It is a uniquely detailed record of psychiatric endeavour in the colonial context.

The principal aim of the project is to use the unique sources of the Margetts collection to present an account of colonial psychiatry in late colonial Kenya, focusing upon diagnoses, therapies and the patient. This marks a major departure from previous work in this subfield, which has tended toward the production of institutional histories in which the experience of the patient plays only a minimal and often abstracted part. I was in contact with Dr Margetts prior to his death in October 2004, and with the assistance of his family was able to procure part of the archive.

Additionally, this project presents opportunities to engage with the field of visual anthropology. In this area we will be guided by our collaborators at the Pitt Rivers Museum, Oxford, and by the work of visual anthropologists such as Elizabeth Edwards, author of *Raw Histories: Photographs, anthropology and museums* (2001). Preliminary examination of the Margetts photographs suggests that his visual record does not fit neatly into a simple model of 'colonial psychiatry' or of homogeneous colonial interpretations of the 'African mind'.

The project links three themes. For each one, the Margetts archive will be a central component, but other primary archival sources will be used to contextualise and elaborate the history of psychiatric treatment in colonial Africa. We are not aware of any other study of psychiatry in Africa that has been able to interrogate source materials of this kind to explore the social history of diagnoses, therapies and their effects.

What treatments for which patients?
The detailed case files kept by Margetts allow an examination of treatment regimes and their effects upon patients. These will be used to reconstruct the histories of specific drugs and treatments. The record of trauma, resilience and therapy at Mathari can then be set in a wider international context, relating to questions of race, class and social order. A notable example is the administration of the drug Thorazine. Margetts's documentation of neurological symptoms is significant in light of recent literature on the complications associated with Thorazine, the first antipsychotic medication, developed in 1952 and used extensively at Mathari. The appearance of 'new' disorders such as tardive dyskinesia in the mid-1960s points to severe side-effects associated with Thorazine, including facial spasms or tics and automatic gestures – conditions that were well documented among African patients. Such treatments may have contributed to characterisations of Africans as predisposed to such 'automatic' behaviours. This sits at the heart of debates about the 'African mind' that dominated colonial discourses.

Exploring trauma, personhood and confinement:
The psychology of confinement was a key theme in Margetts's work. His interest in transcultural psychiatry prompted an exploration of indigenous therapies, alongside those from his own professional training. In an effort to understand the impact of trauma and confinement, Margetts made connections between clinical observations at Mathari and what he termed 'rural practices'. The archive contains a wealth of observations from Mathari on the effects of confinement as well as the many convicts Margetts reported upon as medical officer to the Prison Services.

Mau Mau as mental illness? Between 1952 and 1960, the British sent 1090 convicted Mau Mau terrorists to the gallows. Margetts interviewed each of these condemned men, and pronounced upon their sanity. Although J C Carothers asserted that Mau Mau's brutality was rooted in mental instability, Margetts found only one convict to be insane. His notes on these cases therefore present crucial evidence in the continuing historical debate about the interpretation of the Mau Mau rebellion. Additionally, Margetts encountered numerous other Mau Mau detainees sent to Mathari for psychiatric evaluation and diagnosis. His assessments of these 'patients' suggest the need to reconsider the traumatic effects of the Mau Mau conflict upon the individuals swept into institutions as a consequence of the war.

Dr Sloan Mahone is Deputy Director of the Oxford Unit and University Lecturer in the History of Medicine.

Barbering, gender and personal services in early modern England

MARGARET PELLING

My current research is an extrapolation of my earlier work on barber-surgeons, the body, gender and personal services. As well as preparing articles on apprenticeship, beards and beard behaviour for publication, I am working towards a thematic volume on barbers and barbering that will use a wide range of sources over an extended time frame.

Themes will include barbers as literary figures and barbers as music makers. A unifying theme is the gender status of barbers and the gendered nature of the environment provided by their shops for their mainly male customers.

Rather surprisingly, these topics are proving fruitful for study of the 20th century as well as the early modern period. Asking people about their own experiences in barbershops has provided much interesting material. Stereotypes about barbers have proved to be remarkably durable, and are still found useful even by 20th-century novelists, short story writers, and film makers. This is in spite of the fact that the ostensibly medical functions of barbers have been lost. Such stereotypes also have a very wide geographical currency even in the modern world, although meanings vary greatly according to context.

I am also finalising a paper on gender issues in the work of 17th-century exponents of political arithmetic, especially John Graunt, and am planning, post-retirement, to transfer my biographical index of medical practitioners in early modern England (especially London and East Anglia) to the web, so that it can be made easily available to other scholars.

Dr Margaret Pelling is Reader in Social History of Medicine at the Oxford Unit.

Above: King Henry VIII granting a Royal Charter to the Barber-Surgeons company. Engraving by B Baron, 1736, after Hans Holbein the Younger, 1542.

Public health in the Caribbean, 1850–1960

MARGARET JONES

As the holder of a Wellcome Trust Research Fellowship, I have been working on the history of public health in the Caribbean, 1850–1960, with particular focus on Jamaica, the largest of the British West Indian colonies. To supplement the records of the colonial government held at the National Archives, Kew, I have collected material from the Jamaica National Archives, Spanish Town, and from the University of the West Indies library at Mona, Kingston.

I have also consulted sources at the Rockefeller Archives Center in Tarrytown, New York. A research trip to the WHO archives in Geneva has provided material on the work of the Pan American Health Organization/WHO in the island, particularly in the area of malaria eradication.

I have given papers on various aspects of this research as seminar and conference papers in Warwick and Oxford. The Warwick paper has since been published in the *Journal of Caribbean History* (2008; 'The most cruel and revolting crimes: the treatment of the mentally ill in mid-nineteenth century Jamaica'). I also presented a paper at a malaria symposium held at Yale University in November 2008 from which a publication is planned.

It is envisaged that the resulting monograph on Jamaica will explore such areas as the development of the government medical services, the characteristic diseases of the 19th century (smallpox and cholera), the development of child and maternal healthcare services, and the work of the Rockefeller Foundation and the WHO. The Rockefeller Foundation was active in Jamaica from 1919 to 1951. It arguably filled the gap created by decades of neglect by the imperial authorities. Beginning with a hookworm control campaign, it extended its activities into public health education and training, control of malaria, yaws and tuberculosis, and school health.

It was more extensively involved in Jamaica than anywhere else in the Caribbean. An assessment also of the successful WHO Malaria Eradication Campaign will contribute to the literature on the work of these international agencies. The contribution of Jamaicans themselves to their own health and welfare through self-help organisations such as the Child Welfare League, the Anti-Tuberculosis League and Jamaica Welfare Limited will also be considered.

Of especial comparative interest is the role of the Jamaican Poor Law in the provision of medical care. As in the UK, the poor houses of Jamaica functioned as much as infirmaries as pauper institutions, and it was through the Poor Law that most Jamaicans accessed government medical services for most of the period under discussion. This policy transfer to a colony of the dependent empire has not previously been explored. Previous work on aspects of colonial medicine in other colonies will be drawn upon to illustrate the contrasts and similarities of colonial medicine in different contexts.

Dr Margaret Jones is Research Associate at the Oxford Unit.

Disease and mortality in the late-19th-century Royal Navy

VAUGHAN DUTTON

Prior to 1860, disease in the Royal Navy was only vaguely discernible through a jumbled conglomeration of disordered nomenclatures, unreliable classifications and haphazard reports. This was due in no small part to the language of medical classification being a curious mosaic of the speculations of ancient and modern times. This all changed around mid-century, primarily as a result of the Admiralty's prescription that medical officers accurately record and report diseases on board their ships and the adoption by the Royal Navy of the newly revised and standardised Nomenclature of Diseases.

Right: A board of naval medical officers examining an injured arm. By J Nash, after A Gascoigne Wildey.

From this point on, it became a requirement that all naval medical officers submit regular reports detailing cases, deaths and invalidings on board their ships and that these be classified according to a uniform and decipherable nomenclature. These were annually distilled into the Statistical Reports on the Health of the Navy, which detailed cases, deaths and invalidings throughout the Royal Navy and across 140 different diseases. Year by year, these built up a reliable longitudinal picture of naval diseases on a global scale. All the while, the context within which this data was being collected was undergoing radical changes: ships underwent a metamorphosis from wooden sailing ships to iron steamships; insights (such as the derivation of germ theory and the identification of the role of vectors) exploded existing medical assumptions; and sanitation and public health measures were implemented on a large scale. Thus, by the end of the 19th century, a stable and multidimensional record of disease, emerging out of radical social and technological change, became available.

The data were collected on ships that, like natural laboratories, were largely insulated from external risk factors

This record is well suited to gaining insight into the factors affecting the mortality decline that took place in Europe during the second half of the 19th century. Attempts have been made to address this issue, although these have polarised into two camps: one of these maintains that the mortality decline resulted from better nutrition and the other that it was the result of better public health. Commentators have lamented that the debate is deadlocked and should be abandoned. The reason for the deadlock is largely that there has, up to this point, only been mortality data upon which to base the debate, without any knowledge of associated morbidity or case fatality rates. These rates are important because without them it is not possible to know why mortality is changing: changes in either morbidity rates or case fatality rates may cause a change in mortality rate. Morbidity and case fatality depend on different factors: the former is more dependent on

public health and the latter more on therapeutics. The Royal Navy data are able to supply these additional rates and therefore may be able to break the deadlock.

The data are particularly well suited to addressing the mortality decline for several other reasons: most significantly, they were collected on ships that, like natural laboratories, were largely insulated from external risk factors. This circumstance means that risk factors impacting on rates can be accounted for and confounding factors kept to a minimum. Furthermore, that these ships were naval means that important factors such as the medical requirements for recruits, diet, economy of life, therapeutic practices and sanitary measures were rigorously prescribed and well documented. In addition, the confined life on board meant that the disease detection rate was extremely high. Thus, we have a three-dimensional record of disease as well as detailed information about most of the factors affecting it. By subjecting these to rigorous analysis, a significant contribution might be made to the mortality debate. It is additionally hoped that, via this research, the wishes of the reports' compilers "to illuminate the probable causes of sickness and mortality in all localities where disease abounded in a more than ordinary degree, and to point out the measure of success which attended upon whatever steps might be taken to obviate them" may be extended into the 21st century.

Vaughan Dutton is a DPhil student at the Oxford Unit.

Evolution, eugenics and Christian mission; health and welfare in transition: London and New York, *c*.1865–1940

GRAHAM BAKER

References to 'eugenics' appear regularly in contemporary discussions of medical practice and policy. This was reflected in the UK government's consideration of amendments to the Human Fertilisation and Embryology Bill in May 2008, as MPs wrangled over the term's deployment in their debate. It seems that in questions of medical ethics, the spectre of eugenics is too abhorrent to disregard. Those opposing medical research, often on grounds of religious faith, have sought extra credence for their arguments in the history of eugenics.

Right:
Poster from the Eugenics Society, by Ardley.

Yet how far back can we trace this model of religious communities opposing eugenics? Historians who have regarded the conflict as longstanding frequently reference the papal encyclical of 1930 or G K Chesterton's 1922 book *Eugenics and Other Evils* as evidence. Others have suggested there was less opposition, citing those religious believers who were active participants in eugenics organisations. The result has been a total lack of consensus as regards the religious responses to eugenics – a patchwork has emerged, but the overall picture has been lost.

One striking gap in our knowledge concerns the issue of charity. Eugenicists frequently criticised what they termed 'careless charity'; they dreamt of restructuring the world's ethical systems on a purely evolutionary basis. Naturally, therefore, it seems important to note that in Britain and the USA throughout this period (and arguably to this day), Christian groups were among the most prominent providers of charitable assistance. The dual nature of eugenics is important here: not only did it suggest ways in which society could be advanced and improved, but also it criticised those aspects of society that threatened to diminish nature's selective power. Charity and care for the weak was a central component of this defiance of selection, and Christian charity was thus a prime candidate to stand trial for its debilitating impact on society. Such thoughts suggest it was not rhetoric alone when Francis Galton, the man responsible for coining the term 'eugenics', spoke of his desire that eugenics would become a form of religion. So how did this large body of Christian thought respond to the claims of eugenics? As yet, this question goes unanswered and eugenics's interaction with the practical outworking of Christian theology in British and American society is lost.

In order to remedy this situation I am currently researching three Christian missionary agencies at work in London and New York City throughout the

period 1865–1940. Two were simply local missions with a focus specifically upon work in their respective cities; the third worked on an international scale and had operations in both cities. It is hoped that this will enable an understanding of those responses towards eugenics that were based upon solely local factors and those that were more widely prevalent within Christian thought internationally. All three of these missions were active among communities – the urban poor and groups of immigrants – that the historian Nancy Ordover would term "eugenic castoffs". At best, eugenics had the potential to suggest that these missions' work was futile, as change at the individual level was impossible. At worst, this work would be actively harmful, aiding and abetting the survival and prosperity of the weak and naturally unfit. With this lens it is possible to see that such groups had no real choice but to respond to the claims of eugenics – either to challenge its model and testify to the utility of their work or to justify their actions within the newly constructed eugenic framework. It is hoped this study will provide not only a more detailed understanding of the context in which eugenics developed, but also a fresh perspective upon the historical engagement of religious faith with questions of scientific advance and medical ethics.

Graham Baker is a DPhil student at the Oxford Unit.

'Patient Zero' and the assignment of blame in epidemics

RICHARD MCKAY

The story of a 'promiscuous', gay, French-Canadian flight attendant bringing AIDS to the USA and becoming 'Patient Zero' of the American epidemic is a commonly related anecdote, particularly in North America. Much of the literature dealing with this notorious figure follows the lead of Randy Shilts, the San Francisco journalist whose influential and bestselling *And the Band Played on* (1987) portrayed Gaétan Dugas, the flight attendant in question, as a cold-blooded, recalcitrant disease disseminator. The historical record, however, offers a much more mixed reaction to the man and his perceived role in the early North American epidemic.

Medical authorities have long dismissed suggestions that Dugas was the original case of AIDS in North America, responsible for the introduction of the disease. Yet the 'Patient Zero' story caught the public imagination and spread far beyond its original American epidemiological setting, living on in other disciplines and discussions. A computer determined to be the original portal of entry for a virus into a network of users now receives the designation 'Patient Zero'. A comic book with a hero of the same name has been released. The twinned legacies of Dugas and 'Patient Zero' were invoked in debates about public health practice during the 1990s Krever Inquiry into the contamination of the Canadian blood supply. These varied interpretations of the concept and its perceived importance reveal a widespread diffusion and cultural resonance, and demonstrate the need for an understanding of the idea's origins, development and resilience.

My doctoral thesis delves beneath the surface of the published record to discover the ways in which the concept of 'Patient Zero' was originally articulated and debated in epidemiological circles, its adoption and then dismissal from public health discourse, and later the way in which the story was resurrected by Shilts – and perhaps more importantly by his book editor, Michael Denneny – to provide a 'hook' for *And the Band Played on*. To this end, I have conducted nearly 60 oral history interviews across North America with physicians, public health officials and Dugas's acquaintances in the flight attendant and gay communities. These oral sources are used alongside gay periodicals, the records of community AIDS organisations and papers from the Reagan administration to chart the impact and wide variety of responses, both to Dugas, who eventually died in 1984, and to the 'Patient Zero' concept.

Much has been written about the media response to Shilts's characterisation of Dugas, including an excellent chapter in Priscilla Wald's recent *Contagious: Cultures, carriers, and the outbreak narrative* (2008). No one, however, has yet attempted to address the virtual absence of Dugas's lived experience from this hyperbolised tale. My project takes up Roy Porter's challenge to historians of medicine to access 'the patient's view', and attempts to reconstruct Gaétan Dugas's illness experience, drawing chiefly upon recent interviews with his acquaintances and scrutiny of Shilts's original interview notes from the 1980s. In so doing, I chart the limits and uncertainties of scientific and medical knowledge with regard to AIDS between 1981 and 1984, limitations that allowed rumour and suspicion to fill the void.

Two key findings to date are based around Dugas's legacy and the manner in which it has been shaped by

Shilts's writing. First, I have been able to establish that in 1983 Dugas provided assistance to AIDS Vancouver, a community organisation in Canada, offering his years of living with AIDS as a means of generating practical advice for newly diagnosed patients. Though his relationship with AIDS Vancouver was not always smooth, it was less confrontational than a reader of Shilts's work might surmise, and certainly problematises the hypothesis raised by Shilts and others that Dugas was a "real sociopath". Second, there is evidence that Shilts had information that could have made Dugas's character appear more humane had he included it in the book, but he ultimately chose not to. Perhaps Shilts's treatment of Dugas is best understood in light of a comment he made to an interviewer with the *Advocate* magazine in 1987, just as his book was emerging as a bestseller: "Every city has its Gaétan Dugas." It seems that Shilts was prepared to have Dugas represent a dark segment of society, one that the journalist felt could be found everywhere. It is generalisations such as this one, and their historical consequences, that I address in my work.

Richard McKay is a DPhil student at the Oxford Unit. His research is funded by the Wellcome Trust and the Clarendon Fund.

Changing research priorities: planning the global fight against cancer

YONINA MURCIANO-GOROFF

Since early in the 20th century, cancer researchers have been accused of asking the wrong questions about malignancies. Yet popular visions of what constitute the 'right' questions to ask in the quest for cancer cures have shifted. Researchers have been told that they ought to focus more effort on short-term strategies to improve the treatments available, but have also been criticised by environmentalists and basic scientists for ignoring long-term investments in cancer prevention and in understanding the deranged cellular pathways that lead to tumour growth.

Disparate approaches to cancer research regularly come in and out of fashion, both owing to scientific advances and as a result of shifts in the politics of research funding. Understanding past decisions about which forms of cancer research to prioritise can offer insight not only into why certain areas of oncology remain more developed today than others, but also into how scientists and those who fund and manage their work have historically communicated about the complexities of fighting a multi-causal, chronic disease.

My dissertation, which is supported by the Wellcome Trust as well as by Oxford's Clarendon Scholarship, uses the history of international collaboration in the fight against cancer to gain insight into the ongoing discourse regarding research priorities. Certain international projects, such as Cold War-era exchanges between Soviet and US oncologists as part of détente, clearly served highly specific political ends in addition to scientific functions. Yet in many instances, international exchanges in which decisions were made to seek scientific data from other countries, rather than exclusively through domestic projects, offer unique insights into how contemporaries prioritised aspects of cancer research. By focusing on the ways in which American and British cancer researchers interacted with such institutions as the WHO's International Agency for Research on Cancer, I aim to understand how scientists made projections about what sorts of data would be most important as they worked to build a more complete picture of the disease, as well as how they sold their projections to governmental and non-governmental funding bodies.

Institutionalised international cooperation in the fight against cancer dates at least as far back as the first decade of the 20th century, when a group of German researchers proposed the creation of a multinational cancer association. The group began hosting conferences, at which scientists were exposed to a range of possible research tactics, from studies of tumours in plants to more directly clinically relevant forms of research. Although the German effort met with limited success, in the wake of World War I the League of Nations Cancer Commission began fostering relatively small-scale but nonetheless multinational investigations into standardising diagnostic criteria for the disease as well as into inter-country differences in the number of deaths from certain types of tumour. Simultaneously, prominent British and American cancer organisations hosted multinational conferences, at which the value of fostering global exchanges was affirmed. Yet, a concrete vision for how multidisciplinary cancer conferences might best be used to launch large-scale multinational research projects awaited changes in scientific priorities.

As the post-World War II research community became more convinced of the importance of epidemiological approaches to understanding cancer causation, the work of groups with access to information on cancer rates in disparate countries, such as the International Agency for Research on Cancer and the non-governmental International

Union Against Cancer (which originally published the *Cancer Incidence in Five Continents* series, starting in 1966), became increasingly important. Yet the relationship between the novel prioritisation of epidemiological studies and existing approaches to investigating the disease remained a matter for discussion. Analysis of how British and American cancer institutions conceived of the relationship between their work and those studies coordinated at the international level offers unique insights into how scientists make projections about which approaches to fighting a disease are most likely to be successful.

Yonina Murciano-Goroff is a DPhil student at the Oxford Unit.

South Asian-trained geriatricians in the UK

LEROI HENRY

As the only South Asian doctor in an archive of 72 interviews with the pioneers of geriatric medicine put it: "The local boys wouldn't touch it with a barge pole. So, in effect geriatrics owes its origins and beginnings to the pioneers who had the vision and the junior doctors from the Indian subcontinent. It's as simple as that."

The Open University, with the support of the British Geriatrics Society, is conducting a project exploring for the first time the contributions of South Asian-trained geriatricians to the development of care of older people in the UK and to the National Health Service (NHS). The two-year project is funded by the Economic and Social Research Council and is led by Professor Joanna Bornat with Dr Parvati Raghuram and me as co-investigators.

Since its inception, the NHS has relied on and devalued migrant doctors, who are disadvantaged in terms of access to jobs, career progression, the localities where they found employment and the specialities they could occupy. In this context, geriatric medicine became a refuge for many of them when they found they were unable to make progress in higher-status specialities. Geriatric medicine has been a 'Cinderella speciality', with some of the least-regarded groups of patients: frail older people with a disproportionately high number of migrant doctors undertaking posts avoided by UK-trained doctors.

The key aims of the research are: first, to investigate to what extent South Asian doctors not only helped the NHS to care for frail older people but also contributed to the development of the discipline and service provision across the UK; and secondly, to investigate how South Asian geriatricians navigated obstacles to their career progression and the types of support they enjoyed.

The project uses oral history as its primary research method, with a target sample of 60 interviews; at time of writing, more than half of these have been conducted. The full sample will include doctors whose careers ended at different points in the medical hierarchy. The interview schedule uses a life history approach, asking participants to talk about their childhood, upbringing, education and subsequent training, careers and personal lives in their countries of origin and in the UK. All the interviews will eventually be transcribed and deposited in the British Library unless specified otherwise by participants.

For new migrants, securing initial employment in the UK often depended on using networks based on family and alumni. Early career progression tended to rely on the patronage or sponsorship of senior consultants. However, these systems often failed to secure for migrants consultant positions in high-status specialities, which they believed were often reserved for local graduates. Most of the participants had intended to migrate to the UK to undertake training, specifically for membership of the Royal College of Physicians, and then return to their home countries. However, they remained in the UK for a variety of reasons such as family commitments, or a perceived lack of opportunities or unrest in those countries of origin. Almost all of the interviewees had intended to enter higher-status specialities; however, they were unable to secure consultant posts in these and were encouraged to enter geriatrics, which was seen as an easier route to becoming a consultant physician for migrant doctors. Once in post, many consultants engaged with other medical specialities and have played a significant role in moving the focus of geriatrics towards acute medicine.

The project documents the massive contribution of these doctors to the development of the care of older people in their localities, regionally and nationally. However, it has also found significant differences in the experiences of South Asian consultant geriatricians in relation to their professional autonomy, relationships with colleagues, support from Trusts and recognition, which has impacted on their ability to develop services locally and nationally.

Project website: www.open.ac.uk/hsc/research/research-projects/geriatric-medicine/

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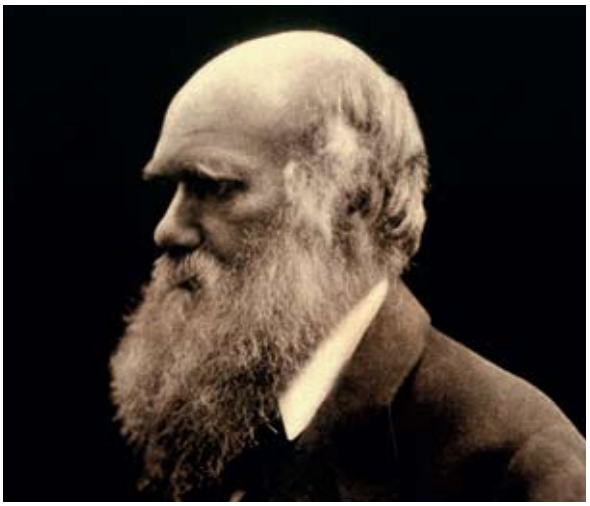
Darwin and the blush

RAY CROZIER

In this year of Charles Darwin's bicentenary, it is timely to reflect on the man's contribution to psychology; I do so through brief consideration of his writing on that enigmatic and, as Darwin noted, uniquely human expression, the blush.



Above: Charles Darwin.

One chapter in *The Expression of Emotion in Man and Animals* (1872) is devoted to the blush and it remains one of the most compelling accounts that we have – indeed, for many years it was one of the few systematic analyses of the phenomenon – and many of the issues he raised are still unresolved.

In a notebook of 1838, Darwin speculated on the blush, wondering whether it occurs in all human groups and in different species (the names are of natives of Terra del Fuego, encountered during the voyage on the *Beagle*): "Does a negress blush – I am almost sure Fuegia Basket did ((& Jeremy when Chico plagued him)). Animals I should think would not have any emotion like a blush." His subsequent research on blushing exemplifies the relentless collection of evidence that characterised his scientific work, drawing upon an extensive network of correspondents. He aimed, inter alia, to establish whether people of all skin colours blush and whether young children, blind people and "idiots" do so.

Darwin refers throughout his chapter to *The Physiology or Mechanism of Blushing* by Thomas Burgess (1839). Burgess reported observations that were useful to Darwin: for example, that a blush was visible on the scar tissue of a black woman and that albino children born to black parents blushed. However, Burgess's explanation of the blush was less welcome. He argued that it was unique to humans because the Creator had designed it to reveal, involuntarily, man's innermost feelings and thereby act as a check on conduct. The thrust of Darwin's writing at this time was the interconnectedness of species and he sought an explanation of the specificity of the blush that would neither accentuate man's difference nor appeal to the hand of Providence.

Darwin's solution emphasised self-attention: it is "the thinking of what others think of us which excites a blush". Thus, infants and animals fail to blush, not because they lack a moral sense, as Burgess argued, but because they have not developed the necessary cognitive capacity. A blush is only possible when we acquire the ability to represent in our own mind how we might be represented in other minds. Darwin related the blush to shyness, shame and modesty, which involve self-attention but not necessarily a moral shortcoming. We blush when we are falsely accused of something, when we expect that our conduct may be misinterpreted, and when we are publicly praised, congratulated or thanked.

Do we understand blushing better than Darwin did? He anticipated contemporary theorising, which relates it to self-consciousness and to psychological states, such as embarrassment, that involve our concern with how we appear to others. Burgess and Darwin offered only a very general outline of the mechanism for producing the blush; recent research has filled out the detail, with the assistance of instruments for measuring cutaneous blood flow (the photoplethysmograph and laser Doppler flowmetry) and cheek temperature. Yet, even as we attain greater insight into the processes, answers to key questions remain elusive. Why does reaction to being the object of attention take this particular form, especially as it often results in drawing attention to ourselves when we least want it? The blush can create a predicament where none existed.

Another strand of research investigates the blush's potential social functions; Darwin had not emphasised this. More recent evolutionary thinking has analysed the blush as a social signal that communicates apology or appeasement. This is socially useful because it serves to deflect aggression, which is valuable for the stability of the group as well as for the individual. It is a particularly effective signal because it is uncontrollable and therefore cannot be feigned: it is evidence of sincerity. Psychologists have investigated this thesis, finding, for example, that people tend to judge an individual less negatively if a blush accompanies some wrongdoing. Nevertheless, human communication is subtle and substantially influenced by culture, and a compelling explanation must do justice to this dimension.

Darwin brought to many scientific fields eagerness to ask difficult questions and the resilience to sustain empirical projects lasting for years. Even though technical resources necessary for research were not yet in place, as with the blush, his observations have stood the test of time. His account of blushing is coherent and insightful, a model and a challenge for contemporary researchers.

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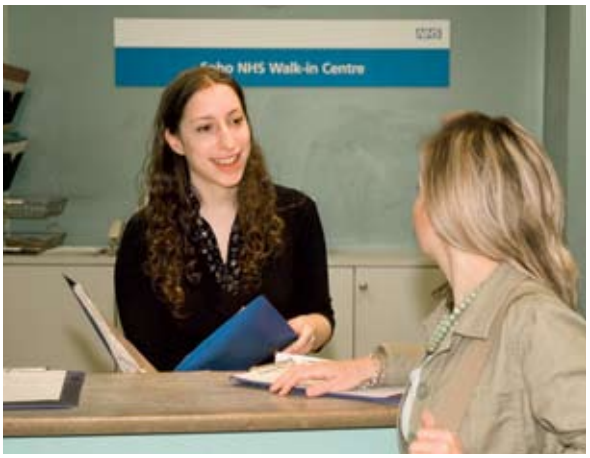
Healthcare and the people

JOHN STEWART

Historians, social scientists and activists from around Britain met at Glasgow Caledonian University in January 2009 to consider the history and ideology of healthcare's relationships with 'the people' in the 20th century.

The last hundred years have indeed been a momentous period in this sphere, and these relationships have been constantly transformed. This workshop's purpose was to ask and to track exactly how the links between healthcare and the nation at large have changed. How have patients and families interacted with the health services? How have they sought different treatments, complained, or asked to be seen by different doctors or in different places? How, in turn, have officials and politicians responded to these demands as society and the economy have become ever more 'consumerist'?



Above:
NHS walk-in centres are a recent innovation, aiming to make healthcare access more convenient for the user.
Anne-Katrin Purkiss

These themes have come increasingly to the fore of public policy in the last few years. Ideas about the 'consumerist' patient, who exercises independent choice rather than becoming the subject of medical intervention, have gained ground very rapidly. The NHS Plan published in 2000 pronounced that "we live in a consumer age. Services have to be tailor-made not mass-produced, geared to the needs of users not the convenience of producers". The electronic 'choose and book' system is supposed to provide patients with "choice of place, date and time for their first outpatient appointment in a hospital or clinic". The Conservative Party fought the 2005 General Election proposing a new 'patient's passport', which would have allowed NHS patients to take part of the cost of their treatment with them to the private sector if they wished. The new NHS Constitution has been hailed in the press as "the end of doctor knows best"; it comes as a series of 'rights', which apparently values what the patient wants just as much as it does the views of healthcare professionals.

The organisers of this workshop, Professor John Stewart of the Centre for the Social History of Health and Healthcare (a research collaboration between Glasgow Caledonian and Strathclyde Universities) and Dr Glen O'Hara of the Centre for Health, Medicine, and Society: Past and Present (Oxford Brookes University), wanted to ask whether these apparently new developments have indeed been as novel as they seem – and, if not, whether the dilemmas and problems inherent in these policies of 'choice' have roots and parallels in previous policy regimes. The Wellcome Trust, via the Oxford Brookes Strategic Award and the Glasgow Centre Enhancement Award, provided the financial support for this meeting.

Numerous strands were picked up at the end of the conference, and the organisers and participants hope both to meet again and to publish collectively on their reflections and ideas. At least three major research agendas were identified. The first, and perhaps most important for non-historians or non-specialists, was the role that such work must play in informing current practice. Too many new policies are introduced without thought to whether they have been tried before; far too many initiatives are launched with the idea that they represent 'year zero', and that some of the inherent problems and complex trade-offs embedded in the art of making policy can be abolished. These papers, covering a century of attempts to involve 'the people' in healthcare, make clear that is not the case. Alex Mold (London School of Hygiene and Tropical Medicine) outlined the development of complaints procedures in the NHS since World War II, focusing not only on state policy and the law, but also on the development of popular movements and a literature of 'self-help'. John Welshman (Lancaster University) spoke about residential care solutions for 'problem' families in the mid-20th century, while Alison Britton (Glasgow Caledonian) detailed the changing law on patient autonomy and 'rights'. Recent debates centring on the 'pathology' of health and social breakdown, the right to die and health services' responses to crisis and scandal have not properly addressed the background to these debates; these three contributions showed that such work should be central to any consideration of future policy.

Constant overlaps and clashes between ideas that have often appeared to be complementary were also outlined. Participation and consumerism do not always go together, despite politicians from at least the 1950s often arguing that they do. Martin Powell (University of Birmingham), in particular, argued that the history of healthcare provision since World War I has showed that the two ideas should not be seen as synonymous. Martin Gorsky (LSHTM) similarly insisted on the extent of local democracy and participation before 'consumerism' became a key rhetoric of modernity in healthcare. Similarly, more 'consumerism' does not always lead to 'democracy': the recent development of an NHS National Centre for Involvement, and Local Involvement Networks to replace Community Health Councils in England, do not seem to have increased the amount of local control over services. Christine Hogg,

a campaigner for Community Health Councils for many years and the author of the recent book *Citizens, Consumers and the NHS*, made clear in her presentation just how difficult it has become to make changes to policies at the grassroots level. George Gosling, a PhD student at Oxford Brookes, showed in his contribution that NHS Foundation Trusts were probably even less 'democratic', in that their members and governors had few powers, than the systems that they had replaced.

Other key insights included the importance of state structure in determining which new policies are adopted, and which voices from outside the bureaucracy are listened to. Participants regarded this as a particularly important dynamic in the new and multidimensional policy environment that has followed devolution to the constituent nations of the UK. John Stewart (Glasgow Caledonian) showed how complaining about services in Scotland has diverged from the rest of the UK since the 1980s. Glen O'Hara made clear just how deep battles within political parties and bureaucracies went on these questions from the 1950s to the 1970s. Chris Nottingham (Glasgow Caledonian) questioned the extent of elite commitment to 'bottom-up' movements for radical change and greater intellectual ownership at that level. Margaret Duprée (University of Glasgow) demonstrated how important administrative structures and financial resources were in the relative failure of the health centre movement in the immediate postwar years in Scotland, given that recent arguments for 'polyclinics' are an especially notable example of the need for policy makers to pay attention to relevant historical phenomena. Sally Sheard (University of Liverpool) spoke about the influence of special advisers in government, with a particular focus on Brian Abel-Smith, an individual whose life and work exemplify the tensions between 'expert' knowledge and the demands of accountability.

All in all, the two-day workshop provided an extremely successful example of the way in which academics from different disciplines and subdisciplines can join together and address a single theme of pressing importance to contemporary policy making. The Glasgow and Oxford Brookes Centres will now be pursuing these themes further, and hope to build up a network of healthcare writers interested in such issues.

Professor John Stewart is Director of the Centre for the Social History of Health and Healthcare, Glasgow.

The Broadmoor Hospital archive

KATE TYTE

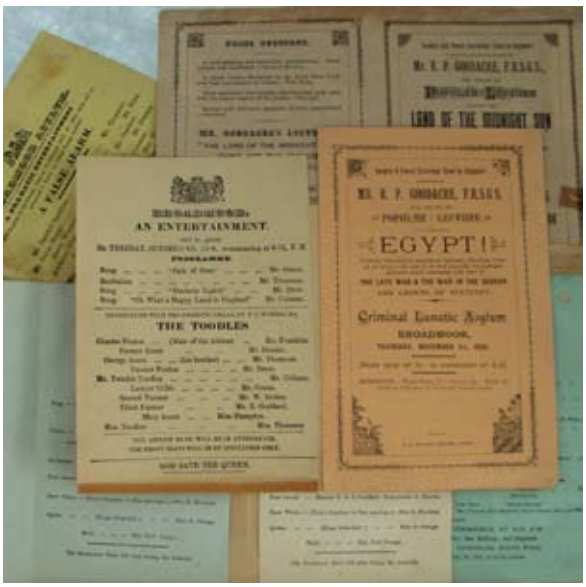
Berkshire Record Office in Reading houses a number of archive collections related to medical history, such as the records of several hospitals within the county and the Reading Dispensary.

In 2005, the Wellcome Trust's Research Resources in Medical History scheme awarded a grant to catalogue and conserve the records of the old county asylum, Fair Mile Hospital. Following the successful completion of this, a further grant was awarded in 2006 for a three-year project to catalogue and conserve the records of Broadmoor Hospital, 1863–2004, and make this unique collection widely available to researchers for the first time.

The project has involved cataloguing over 600 boxes of papers, including nearly 4000 patient files and over 500 volumes and other items. A paper conservator and a bookbinder have also repaired hundreds of items, transforming them from fragile documents, damaged by damp and mould, into robust, useable records. Conservation work on damp-damaged patient files will continue until 2011.

Broadmoor Hospital opened in 1863 as England's first criminal lunatic asylum. Since then it has gained a reputation as one of Britain's most fascinating and feared institutions. Now that the archive is publicly available for the first time, researchers can begin to explore the reality behind the headlines. When Broadmoor first opened it housed both men and women, in separate wings, and functioned as a virtually self-sufficient community. It had its own farm, workshops and chapel, and patients and staff alike were isolated from the outside world, entertaining each other with amateur dramatics, a band and a cricket team. Between 1916 and 1919 Broadmoor also functioned as Crowthorne War Hospital for mentally ill prisoners of war. After World War II, Broadmoor was incorporated into the NHS, and it underwent successive sweeping changes with the introduction of the 1959 and 1983 Mental Health Acts. The buildings were also modernised in a rebuilding programme between 1975 and 1992. Broadmoor is currently part of the West London Mental Health NHS Trust, and the last of its female patients were moved on to single-sex hospitals in 2007.

The Broadmoor archive includes hundreds of documents on the management and administration of the hospital, maps and plans, photographs, personnel records, posters advertising entertainments, and of course patient records. These include case books giving detailed information about the condition and progress of individual patients, and individual files for each patient, often featuring letters from the



Right:
Publicity for lectures and entertainments at Broadmoor, 1888.

patient and the patient's relatives. There is also the *Broadmoor Chronicle* magazine, 1944–2004, written and produced by patients and featuring poems, stories, political debate, artwork, a guide to sport and entertainment in the hospital, and even fashion tips.

Hardly anything has ever been written about the history of Broadmoor, and it is currently the only Special Hospital whose archives are available for research. The collection provides a wealth of information about the organisation as a whole, and about the lives of individual patients and staff. It also shows changing treatments and attitudes towards mental illness and especially the relationship between mental illness and crime. It has the potential to be used for a huge range of original research.

Access to the Broadmoor catalogue, and to the archive itself, is now available at Berkshire Record Office. The catalogue will soon be available through the National Archives Access to Archives Website (**www.nationalarchives.gov.uk/a2a**). Researchers should note that patient records are closed for 100 years.

An exhibition, *The Secret World of Victorian Broadmoor*, was on display at the Museum of Reading from November 2008 to February 2009.

For more information about the Broadmoor Hospital collection, or any of the hospital archives held at Berkshire Record Office, please contact: Berkshire Record Office, 9 Coley Avenue, Reading, Berkshire RG1 6AF; tel. +44 (0)118 901 5132; email arch@reading.gov.uk.

Kate Tyte is Broadmoor Project Archivist at the Berkshire Record Office.

New publication

Power, Knowledge, Medicine: Ayurvedic pharmaceuticals at home and in the world by Madhulika Banerjee.

If the presence of Ayurveda in modern times invites surprise, its renewed vigour in the age of globalisation gives rise to both romantic celebration and incredulous hostility. This kind of response suggests that our understanding of modern Ayurveda has not kept pace with the growth of the phenomenon itself. It is not that Ayurveda has not been studied, but that much of the wealth of scholarship lies in highly specialised disciplines such as Indology, medical research, history and medical anthropology. The big picture of contemporary Ayurveda eludes this scholarship.

The present book seeks to fill this gap by drawing insights from all the various disciplines that have analysed different aspects of Ayurveda, yet keeping its principal focus on making sense of some of the big changes that have marked the transformation of Ayurveda in the 20th century. The author suggests that this transformation cannot be seen as purely cognitive, technological or economic change, for it involves an irreducible political play between regimes of knowledge and exercise of state power.

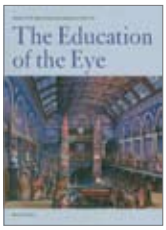
Tracing the birth of Ayurvedic pharmacy in colonial times, this book analyses how the workings of the post-colonial state, civil society and industry have shaped contemporary Ayurveda. It argues that processes of commercialisation and standardisation have resulted in pharmaceuticalisation of this ancient medical system, accounting for both the resilience and shrinkage of Ayurveda as a medical system. The book would engage not just those interested in the phenomenon of Ayurveda or those involved in health policy but any social scientist interested in technological choice, knowledge and power, or alternative modernity.

Madhulika Banerjee teaches at the Department of Political Science at the University of Delhi, and has a research interest in the politics of alternative medical knowledge. She is currently looking at community health groups that use traditional medical knowledge in their work to promote health security in disadvantaged communities.

Published in: New Perspectives in South Asian History, Orient Blackswan Private Limited (ISBN 978 81 250 3528 2).

Contact for London and Europe: Alan Ball, Melisende (**E** melisende@btinternet.com). For the rest of the world: info@orientblackswan.com, or visit www.orientblackswan.com.

The Education of the Eye: History of the Royal Polytechnic Institution 1838–1881



ROSS MACFARLANE

This, the first in a two-part history of the University of Westminster by Brenda Weeden, relates the rise and fall of the Royal Polytechnic Institution, the University's forebear. Located at 309 Regent Street, the Polytechnic was one of the most popular attractions in mid-Victorian London and central to the dissemination of scientific and technical knowledge in the period.

Opened in 1838 as "a sort of permanent science fair", the Polytechnic's Great Hall displayed the latest inventions and technological breakthroughs in novel and entertaining ways. The Polytechnic took advantage of its central London site and soon became one of the most popular destinations in the capital. Here, showmanship rubbed shoulders with science and visitors from all classes came to witness the new attractions of the age. From a distance, the Polytechnic appears a precursor to the Great Exhibition: both sites allowed close proximity to the engines of Britain's industrial strength.

After paying your shilling to enter, what could you see at the Institution? A changing programme of events attempted to encourage frequent visits, but some of the more permanent attractions on show included: having your portrait captured at Europe's first photographic studio; observing the workings of the great induction coil; seeing an automaton ('Leotard à la Frankenstein') performing on the high wire; and watching a deep-sea diver descend to the bottom of a water tank or, for the more intrepid – such as Prince Albert – following the diver down in a diving bell.

After a large theatre was added in 1848, optical entertainments and elucidations became a central part of the Polytechnic's repertoire. By the means of the 'oxyhydrogen projecting microscope', enlarged onto a 425-square-foot screen, these included representations of Galvani's experiments on frogs' legs and demonstrations of the microbes present in a drop of London tap water.

Such explanatory lectures would become increasingly popular at the Polytechnic, and up until the 1870s, magic lanterns would illuminate such contrasting performances as Sir Richard Burton's pilgrimage to Mecca and the first dramatisation of *Alice in Wonderland*.

But it would be for Pepper's Ghost – an illusion whereby ghostly figures interacted with actors on stage through the reflections of an angled pane of glass – that the Polytechnic would be most associated. It was named after John Henry Pepper, lecturer and manager of the Institution for most of the 1850s and 1860s.

Though now recognised for his important role in the history of conjuring, not only through Pepper's Ghost, but also for 'Proteus' – the first magician's cabinet trick and hugely influential in the development of stage magic – Weeden, rightly, also hails Pepper for his promotion at the Polytechnic of evening classes for working men.

That Pepper was able to utilise his innate sense of showmanship to impart scientific knowledge is shown by some of the topics on which he lectured. He levitated a table and chair to debunk the methods of spiritualists, spoke on spontaneous human combustion (taking issue with Dickens on the matter), and illustrated both the fermentation of beer and – inspired by the case of the 'Rugeley Poisoner', Dr William Palmer – strychnine as a poison.

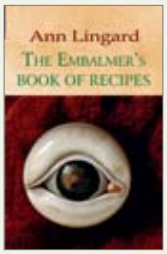
Pepper left the Polytechnic in 1868 and it ran into problems in the 1870s: scientific elucidation was pushed into the background and more profitable entertainments moved centre stage. Soon it became difficult to distinguish the Polytechnic from the many other halls of entertainment in London. Its attractions began to lose their lustre: the repeated reappearances of Pepper's Ghost rendered it all too familiar; the Great Hall declined from an exhibit of new inventions into a bazaar of stores; and the diving bell broke down once too often.

As the business and administrative records of the Polytechnic have not survived, Weeden's account relies heavily on advertisements and descriptions from the contemporary press (a factor that also contributes to an extremely well-illustrated publication). Weeden states how much easier her history was to write with the growth of online resources and as more material becomes available through these means, more details on the Polytechnic may come to light. Even so, *The Education of the Eye* acts as a fine introduction to one of the pioneering attractions of the Victorian age: institutional histories are rarely this much fun.

Weeden B. The Education of the Eye: History of the Royal Polytechnic Institution 1838–1881. Cambridge: Granta Editions; 2008.

Ross MacFarlane is Content and Interpretation Officer in the Wellcome Library.

Making eyes



The Embalmer's Book of Recipes
by Ann Lingard.

It was supposedly the eyes that persuaded Peter the Great to kiss one of Frederik Ruysch's embalmed babies in 1697. The story was put about by Dr Ruysch's maid that the Tsar of all the Russias believed the baby was alive. But Peter may have kissed the child in recognition of Ruysch's skill, for the child's eyes were open, and its skin was soft and warmly coloured. The glass eyes apparently gave the child the appearance and power of life. Whatever the Tsar's reason for the kiss, the story of his apparent gullibility has been preserved for more than 300 years.

This power of the eyes of Ruysch's embalmed babies led me into researching the work of the 17th- and 18th-century Dutch and Scottish embalmers and anatomists for my novel *The Embalmer's Book of Recipes* – with the much-appreciated help of a Wellcome Trust history of medicine grant that enabled me to visit Amsterdam, Leiden, Glasgow and various other museums, libraries and exhibitions in the UK. (I was formerly an academic scientist and research leader, a parasitologist, so this foray into the history of medicine was exciting and challenging, and I was able to follow many different but related threads.)

During my research I visited the *Spectacular Bodies* exhibition at the Hayward Gallery (curated by Marina Wallace and Martin Kemp) and saw Clemente Susini's 1803 wax model of the head of an apparently sleeping woman, partly opened up to show the 'organ of sight', Citarelli's wax male écorché with its empty eye sockets that were so full of shadows as to give expression, and Alphonse Bertillon's photographs of human eyes (and ears and mouths and chins), the *Tableau Synoptique des Traits Physiognomiques*, dating from the early 1900s. At Glasgow's Hunterian Museum there are jars of eyes in preservative collected by William Hunter, presumably still awaiting his dissection and a learned treatise. And elsewhere were boxes of glass eyes made as cosmetic replacements: Rudolf and Leopold Blaschka, more famous for their exquisite and scientifically accurate glass flowers and marine animals, made glass eyes early in their careers to earn a basic living.

The cover of *The Embalmer's Book of Recipes* is dominated by Rosamond Wolff Purcell's photograph of a glass and antler-bone eye, part of Peter the Great's magnificent, wide-ranging *Wunderkammer* in St Petersburg. Tsar Peter, on his second visit to Amsterdam in 1717, bought all of Ruysch's collection, including the embalmed babies and the moralistic Tableaux. These Tableaux now exist only as Huyberts's engravings in the volumes of Ruysch's *Opera Omnia* (which I studied in the Bodleian Library, but which can now be seen on the website of the Bibliothèque Interuniversitaire de Médécine), and are extraordinary arrangements of preserved tissues and animals, and the skeletons and skulls of fetuses, arranged as symbols of *vanitas mundi*.

Many reasons lie behind the collecting of human skulls. They might be indicators of the superior power of an adversary (the 'shrunken heads' in Oxford's Pitt Rivers Museum, always a source of delighted horror for children, portray the weakness of the loser so much more eloquently than a shrunken foot); they might be used as a memorial to the dead, as in the *stupa* at the Killing Fields of Cambodia; they might be items of curiosity for display in a *Kabinett* or Theatre of Anatomy – like that held at Leiden, the "skull of a Moor" who "succumbed only after a hail of swordstrokes" in the Siege of Haarlem – or they might be used as artworks and symbols of *vanitas*.

But more prosaically, skull collections can be used as a teaching aid in anatomy. Many anatomical museums hold series of human skulls to illustrate bone development, age, ethnic differences and abnormalities. Among the teratological collection in Amsterdam's Museum Vrolik there is a polished mahogany cabinet that contains rows of human skulls, white and toothy, each set on a wooden peg and chosen to show a bony malformation: microcephaly, bathrocephaly, hydrocephaly, all with handwritten labels. There is a striking resonance here with a modern sculpture, 'Box of Heads' by Ana Maria Pacheco, formerly artist-in-residence at the National Gallery. From each section of the box a whitened wooden face stares out; all are red-lipped, most are bald, many have prominent porcelain teeth – but the major dissimilarity with Museum Vrolik's skulls is that all of the sculptured heads engage you with their eyes and you become aware of their humour, anxiety or pain. Expression returns, the 'being' that seems to reside within the skull and head is restored with the restoration of the eyes.

Artificial eyes, preserved bodies and skeletons: the research led me into the historical and modern practice of taxidermy, too. A taxidermist showed me how the expression and character of an animal are strongly affected by the positioning of the artificial eyes. If he was asked to prepare a much-loved pet, he would only agree if he were allowed to arrange the animal in an active pose – otherwise, any mistake in positioning the eyes and eyelids could too easily appear to alter the animal's character. "It's the eyes that matter most," he said.

Many of the images that inspired this research can be seen at **www.annlingard.com**. *The Embalmer's Book of Recipes* (ISBN 978-1-906710-17-0) is published in paperback by Indepenpress Publishers Ltd, and is available from all good bookshops.

Ann Lingard is a writer living in Cumbria (**E** enquiries@annlingard.com).

Maritime Quarantine

AKIHITO SUZUKI

Every medical historian knows that quarantine has been and remains an important issue. Erwin Ackerknecht's classic thesis of the dichotomy of liberal and authoritarian public health policies was constructed around the different attitudes to quarantine among 19th-century nations. Peter Baldwin critically examined the thesis from a geopolitical viewpoint in his *Contagion and the State in Europe 1830–1930*. Alison Bashford and many others have explored quarantine's role in constructing borders along national, racial and class lines.

In such historical discussions of quarantine, Britain always featured prominently. In the 19th century especially, one encounters Britain routinely as the defender of free trade. It is thus curious that we have not had a full account of the history of quarantine in Britain. But finally, John Booker's 600-pages book, *Maritime Quarantine*, has filled the gap.

The book is based on extensive research into administrative papers in Britain and the Mediterranean ports of Malta and Marseilles. The results are presented in a chronologically ordered series of chapters, each telling the response to the scares of epidemic diseases entering Britain or its overseas possessions. After a brief account of the 17th century, the book starts from the threat of plague entering Britain from the Baltic countries in 1709–14, and ends with the Maltese response to the mixed threat of plague, yellow fever and cholera in 1826–56. The persistent threat of plague in stimulating British quarantine policy in the 18th and 19th centuries is a nice reminder that plague remained a feared foe, lurking in eastern Europe and the Mediterranean, after the last epidemic in London in 1665–66.

The "uniquely British confusion between the boundaries of function of governmental offices" made quarantine in Britain an extremely cumbersome business

In elucidating in great detail the British responses to those scares of imported epidemics, the author has revealed the complexity of quarantine as a policy of the government. For most of the period examined in the book, that 'government' was not a monolith but a set of different, ill-coordinated offices. For a quarantine to be implemented, one needed an Act of Parliament, an order of the Privy Council and a floating lazaretto-ship of the Navy. The "uniquely British confusion between the boundaries of function of governmental offices" made quarantine in Britain an extremely cumbersome business. To further complicate the matter, medical or non-medical opinions were almost always divided, often opposing the policy of the government. They occasionally influenced public opinion on quarantine. In these contexts, Booker has deftly analysed the works of Richard Mead, John Howard and Charles Maclean, and related them with the actual implementation of the policies of quarantine.

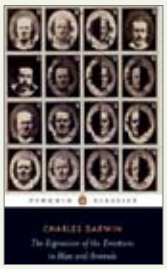
Perhaps most importantly, the book has drawn our attention to the actual locales where quarantines were implemented, expanding historians' understanding of quarantine much farther than London, where politicians, international merchants, intellectuals and elite physicians discussed the policy. The British outposts in Gibraltar, Minorca and Malta, as well as dozens of quarantine stations in British Isles, are examined and local conflicts are recounted in minute detail. A landowner of the projected site for building a first lazaretto on land demanded exorbitant compensation, which brought the project to an ignoble failure. Local smugglers were one of the targets of the tighter policy to control the international trade, of which quarantine was one. Fishermen repeatedly registered their complaints that quarantined ships were damaging their oyster beds. These local details may sound trivial but they are important reminders to historians of the spatial nature of quarantine. Quarantine may appear a notional boundary drawn on a map demarcating health and disease. In truth, it consisted of physical sites with ships, buildings, people and other living species.

This book is not without its flaws. The introduction is perfunctory and a conclusion simply does not exist. There is no neat summary at the beginning of each chapter, which would help the reader. Nevertheless, with its densely packed information on the policy making of British quarantine at the centre and its practice at the locales, this book will remain unsurpassed for the foreseeable future and will be an indispensable work for anyone interested in quarantine, whether in Britain or in other countries. A suggested place in a bookshelf of a medical historian will be next to Creiton's *History of Epidemics in Britain*.

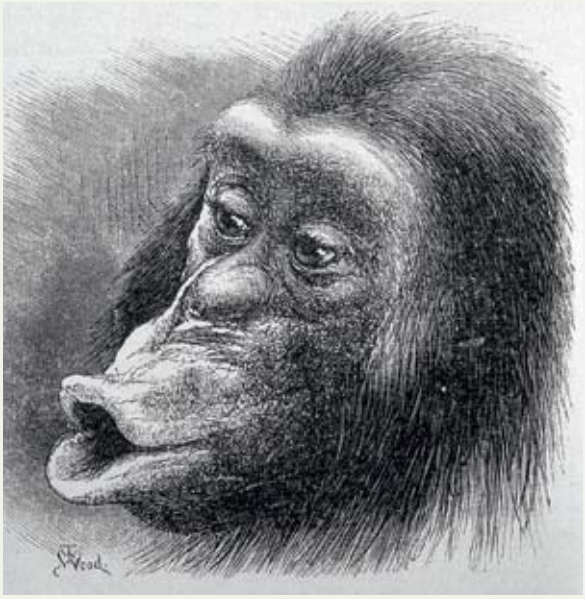
Booker J. Maritime Quarantine. Burlington, VT: Ashgate Publishing Company; 2007.

Professor Akihito Suzuki is attached to Keio University, Japan.

Express yourself



The Expression of the Emotions in Man and Animals by Charles Darwin; new edition edited by Joe Cain and Sharon Messenger.



More than a few casual readers have dismissed Darwin's 1872 book, *The Expression of the Emotions in Man and Animals*, as the trivial ramblings of a scientist long past his creative prime. Nothing could be farther from the truth. *Expression* was a central pillar in Darwin's argument about human origins. It focused on the evolution of "higher faculties", such as morality and love.

This book is typical of Darwin's projects: it integrated literature over a wide range; there was a long gestation; there is a search for rational, naturalistic explanations. After all, *Expression* was intended to be a scientific study of biological problems.

For Darwin, methods made the scientist. He worried about which methods were reliable and which gave false leads. He sought to triangulate different methods for maximum impact. He filled his books with data drawn from many different approaches, never just one. Darwin's worries underpinned his reputation for caution.

Some of the most striking data in *Expression* come from the contorted faces of a man being shocked with electricity. These were produced by the French neurologist Guillaume Duchenne (1806–1875), who published a treatise on facial expression in 1862. With permission, Darwin used Duchenne's research in *Expression*.

Duchenne sought to understand which muscle combinations produced particular expressions on the face. He learned to apply electrical charges to specific muscles of a living patient. His main subject, a nameless "old, toothless man", had little feeling in his face. He could withstand the seconds-long stimulations needed for the slow photography of the time.

Duchenne mastered his technique, classifying muscles for anger, sadness and fright, for example. He could stimulate single muscles, producing some expressions (joy, pain). Other expressions came from complex combinations (signals for discomfort by combining joy and pain). Duchenne also explored the difference between "real" and "false" expressions, concluding they differed in the action of involuntary muscles. He also discovered optical illusions in which the overall face seemed to change only from the action of one muscle over a small region of the face.

This work suggested that facial expression formed a universal non-verbal language in place at birth. Darwin found it fascinating and, unsurprisingly, he made much use of it. The work showed how far the face was from a well-designed system for expression. Instead, everything seemed haphazard, ad hoc and inelegant. This helped Darwin's overall argument that human expressions had an evolutionary past.

Expression was published in November 1872. It was hugely popular. Within a year, 10 000 copies had been printed in Britain, plus an American edition. Translations quickly followed: Russian (1872), German (1873), Dutch (1873), Polish (1873), French (1874).

Expression is typical of Darwin's approach. It wasn't perfect. It didn't solve every problem. It left some of the hardest problems (such as the nature of the religious soul) for others. Still, it stands today as a serious attempt to apply rigorous methods in the study of the world around.

Joe Cain (Senior Lecturer in History of Biology at UCL) and **Sharon Messenger** (Senior Research Assistant at the Wellcome Trust Centre for the History of Medicine at UCL) have edited the new Penguin Classics reprint of Charles Darwin's *The Expression of the Emotions in Man and Animals.*

Above: "Chimpanzee looking tired and sulky. Drawn from life by Mr. Wood." From *Expression*, 1872.

Right: Electrically induced expression of terror, by Guillaume Duchenne, 1862.

Calendar of events

TO ADD AN EVENT TO THE CALENDAR PAGE, PLEASE SEND DETAILS TO THE EDITOR, sanjoy.bhattacharya@ucl.ac.uk

MAY 2009

20 **Making Sex Electric: Dr James Graham and his 'Celestial Bed'**
Talk by Lydia Syson on Dr Graham, who used electricity, magnetism, gases and musical automata to stimulate ecstasy and conception
Hunterian Museum, Royal College of Surgeons of England
Contact: museums@rcseng.ac.uk

JUNE 2009

18–20 **International Conference on the History of Medicine and Global Connections**
Organised by the Wellcome Trust Centre for the History of Medicine at University College London
Contact: Carol Bowen (c.bowen@ucl.ac.uk)

26–28 **5th International Conference on the History of Drugs and Alcohol**
Centre for the Social History of Health and Healthcare, Glasgow
Contact: Dr Patricia Barton (p.barton@strath.ac.uk)

JULY 2009

2–3 **Génétique et Culture: Genetic science and French culture**
Conference at the Institute of Germanic and Romance Studies, London
Contact: Douglas Morrey (d.j.morrey@warwick.ac.uk)

2–5 **British Society for the History of Science Annual Conference**
University of Leicester
Contact: bshsLeicester2009@bshs.org.uk

8–11 **Social Fears and Moral Panics**
International Association for Media and History Conference 2009
University of Wales Aberystwyth
Contact: Dr Sian Nicholas (iamhist2009@aber.ac.uk)

SEPTEMBER 2009

3–6 **Global Developments and Local Specificities in the History of Medicine and Health**
European Association for the History of Medicine and Health conference in Heidelberg, Germany
Contact: Marie Nelson (marie.c.nelson@liu.se)

9 **History of Genetics Conference**
John Innes Centre, Norwich
Contact: sceweb@bbsrc.ac.uk

21–23 **Charles Darwin and Modern Biology**
Conference at the St Petersburg Branch of the Institute for the History of Science and Technology, Russia
Contact: darwin2009@mail.ru

23 **WHO Global Health Histories Seminar: Malaria**
WHO Library Meeting Room, Geneva
www.ucl.ac.uk/silva/histmed/downloads/WHOSem2009.pdf

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Contributor guidelines are available at **www.wellcome.ac.uk/wellcomehistory**

Contributions should preferably be pasted into an email and sent to:

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